

# Work Order ID 53233

October 28, 2009 8:22:09 AM



Page 1

Item ID: D2580-1

Accept



Setup Start



Revision ID: D

Stop



Item Name: 205 Skidtube bent detail

Start Date: 30/10/2009 Start Qty: 2.00



Cust Item ID:

Required Date: 30/10/2009 Req'd Qty: 2.00

Customer:

Reference:

Run Start



Approvals: Process Plan: *PS*

Date: *09-10-21*

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run-Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D2580

Rev D

100

0.00



HandFinish

Memo

0.00

Hand Finishing

1- Inspect mat'l D2500-1-190 for damage.

2- Chemical Conversion Coat as per QSI 005 4.1

*2 - Ø AWM 9.10.08*

101

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

*PS 9-10-29*

*(2)*

# Work Order ID 53233

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Page 2

Item ID: D2580-1

Accept



Setup Start



Revision ID: D

Stop



Item Name: 205 Skidtube bent detail

Start Date: 30/10/2009 Start Qty: 2.00



Cust Item ID:

Required Date: 30/10/2009 Req'd Qty: 2.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

110

0.00



Skid tubes

Skid tubes

Memo

0.00

1-Drill pilot holes using drill jig DT 8149 (Do not use cutting fluid)

2-Open holes to 0.500" as per Dwg D2580 without cutting fluid

3-Deburr and blow out all chips from inside of tube

4-Bond web in place per QSI 015.

□□

A/R Sikaflex-291 batch: \_\_\_\_\_ □□□

Sikaflex expire date: \_\_\_\_\_

Start time: \_\_\_\_\_ bond for 12hrs

M112391

10-2-26

3:00

AWM 9-11-05

2 - AWM 9-11-05

130

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

DP 9-11-06

**Work Order ID 53233**

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Page 3

Item ID: D2580-1

Accept

Revision ID: D

Item Name: 205 Skidtube bent detail

Start Date: 30/10/2009 Start Qty: 2.00

Required Date: 30/10/2009 Req'd Qty: 2.00

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

140

Identify as per dwg & Stock Location: LG

0.00



Packaging

Memo

0.00

Packaging

150

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/11/12 *[Signature]*

PL 09-11-12

# Picklist Print

October 28, 2009 8:22:14 AM

Page 1

Work Order ID: 53233



Parent Item: D2580-1RevD



Parent Item Name: 205 Skidtube bent detail

Start Date: 30/10/2009

Required Date: 30/10/2009

Comments:

Start Qty: 2.00

Required Qty: 2.00

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Remaining<br>Qty To Pick | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|--------------------------|---------------|----------------|--------|
| D2500-1-190RevG                 |                        | Manufactured  | No          |                     |                  |                 | Each               | 144.0000       | 2.0000                   |               |                |        |
|                                 |                        |               |             |                     |                  |                 |                    |                |                          |               |                |        |
| Ext'n - I' Beam Tube 4"         |                        |               |             |                     |                  |                 |                    |                |                          |               |                |        |

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse

LG    141

50166    40

52319    101

Main Warehouse

ST    3

46468    3

D2596RevD

Manufactured      No



Web, 205 Skidtube

110                      Each                      8.0000                      2.0000



Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse

LG    8

51528    8

AWM 9-10-25 (2)

AWM 9-10-26 (2)

**DART****RELEASED**  
07-06-28 #

|                  |                |  |                        |
|------------------|----------------|--|------------------------|
| DESIGN<br>#      | DRAWN BY<br>RH | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA   |                        |
| CHECKED<br>#     | APPROVED<br>#  | DRAWING NO.<br>D2580                                       | REV. D<br>SHEET 1 OF 3 |
| DATE<br>07.02.27 |                | TITLE<br>205 SKIDTUBE ASSEMBLY                             | SCALE<br>NTS           |
| A                | 96.09.16       | NEW ISSUE  |                        |
| B                | 96.12.02       | AS MANUFACTURED  |                        |
| C                | 98.08.26       | REDRAWN, INCLUDED DEO 9094/9097                            |                        |
| D                | 07.02.27       | CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183 |                        |

| QTY<br>-041 | QTY<br>-045 | Part Number   | Description       |
|-------------|-------------|---|-------------------|
| X           |             | D2580-041   | SKIDTUBE ASSEMBLY |
|             | X           | D2580-045   | SKIDTUBE ASSEMBLY |
|             |             |   |                   |
| 1           | 1           | D2500-1-190   | EXTRUSION         |
| 1           | 1           | D2576-3   | STEP              |
| 20          | 24          | D2579   | CROSS BOLT SPACER |
| 16          | 16          | D2594-1   | PLUG              |
| 16          | 16          | D2594-3   | O-RING            |
| 1           | 1           | D2596   | 205 WEB           |
| 1           | 1           | D2855   | AFT CAP           |
| 1           | 1           | D3564-5   | WEARSHOE          |
| 1           | 1           | D3564-9   | WEARSHOE          |
| 1           | 1           | D3564-11  | WEARSHOE          |
| 1           | 1           | D3564-13  | WEARSHOE          |
| 2           | 2           | D3566-1   | GASKET            |
| 1           | 1           | D3566-5   | GASKET            |
| 1           | 1           | D3566-13  | GASKET            |
|             |             |   |                   |
| 50          | 50          | ALS7-1032-130<br>or AKS7-1032-130<br>or AKS4-1032-130<br>or AELS-1032-130 | INSERT            |
| 50          | 50          | AN3C4A  | BOLT              |
| 2           | 2           | AN3-5A  | BOLT              |
| 50          | 50          | AN960C10L   | WASHER            |
| 2           | 2           | AN960JD10L  | WASHER            |

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WORK ORDER  
NO. 53233  
09-10-26

**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
SEE NOTES ON  
PAGE 2 FOR D2580-041 AND  
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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07-06-28

Diagram illustrating the grinding locations for the D2576-3 step. The diagram shows a cross-section of the step with the following labels:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- GRIND FLUSH
- LOCATION RIDGE ON UNDERSIDE OF D2576

DRILL PRIOR TO D2855 CAP  
INSTALLATION (2 PLACES)

#0.208

SEAL WITH  
SIKAFLEX-241/-291

AN3-5A BOLT (1)

AN960JD10L WASHER (1)  
(2 PLACES)

D2855 CAP

0.40

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37.50  
DISTANCE TO AFT END  
OF D2596 WEB  
3  
7  
1.750  
1.750  
#0.508 (TYP.)  
(40 PLACES)  
REFER TO DETAIL A  
8.750  
17.375  
26.000  
34.188  
57.313 (REF)  
7 EQUAL SPACES  
8.188 PITCH  
38.0  
91.500  
190.0  
(D2500-1)

[illegible]

0.5 1.5 1.5 D P P P P P P P  
 BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE  
 BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE  
 WELD AS PER DETAIL B  
 REFER TO DETAIL C  
 D3566-1 D3566-5 D3566-11 D3566-13  
 D3564-11 D3564-5 D3564-9 D3564-13  
 AN3C4A BOLT (1)  
 AN960C10L WASHER (1)  
 (50 PLACES)

|        |          |
|--------|----------|
| DESIGN | DRAWN BY |
|--------|----------|

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

|        |   |
|--------|---|
| DESIGN | 4 |
|--------|---|

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DESIGN

1

01100110

CHECKED \_\_\_\_\_

—

DATE \_\_\_\_\_

07.02

DRAWN BY

94

**077**

APPROVED: *[Signature]*

177

---

DRAWING NO.

DRAWING NO.  
DCEBO

D2580

|       |  |
|-------|--|
| TITLE |  |
|-------|--|

205 SKI

25

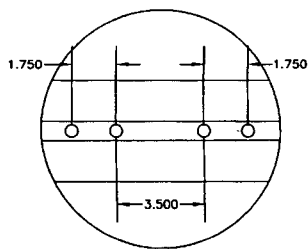
RE

SHEET 2 OF 2

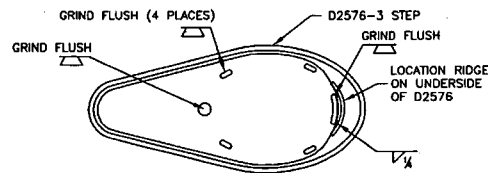
SC

## ASSEMBLY

**DETAIL E**  
SCALE 5:24

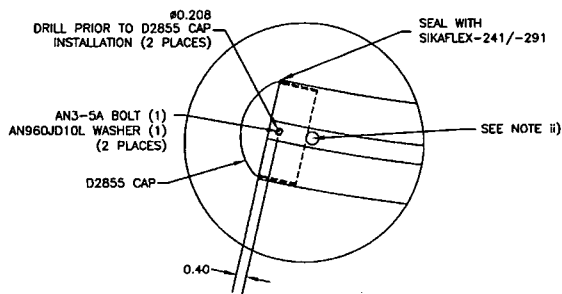


**DETAIL F**  
SCALE 5:24

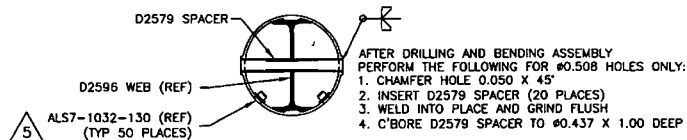


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07.06.28

**DETAIL G**  
SCALE 5:24

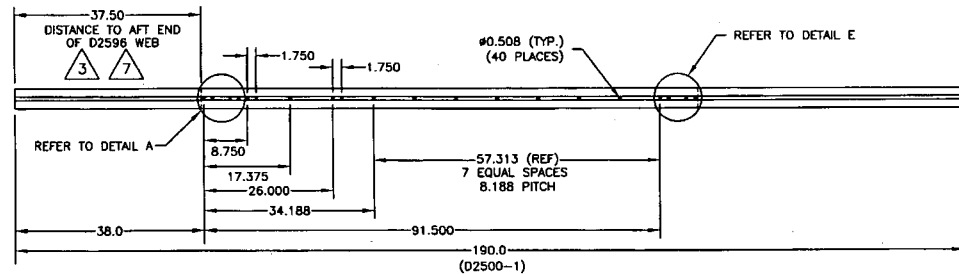


**SECTION H-H**  
SCALE 5:24

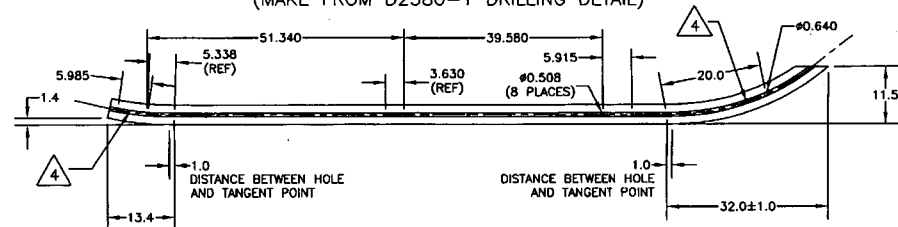


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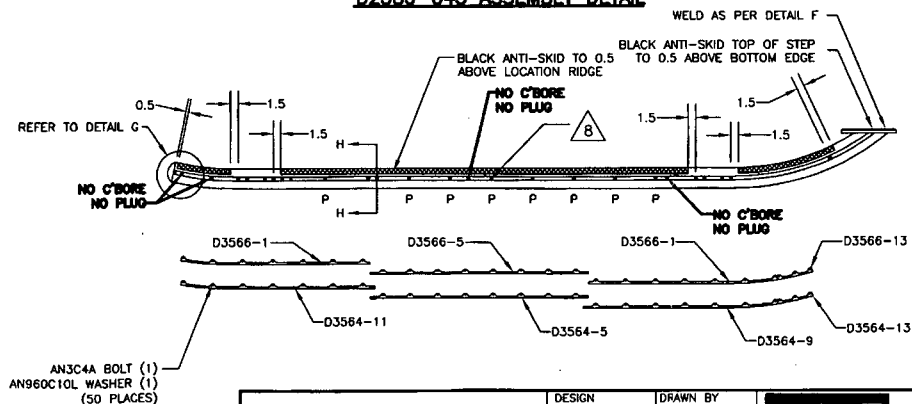
**D2580-1 DRILLING DETAIL**



**D2580-5 BENDING AND CUTTING DETAIL**  
(MAKE FROM D2580-1 DRILLING DETAIL)



**D2580-045 ASSEMBLY DETAIL**



**D2580-045 NOTES**

- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

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|-------------------|-----------------------------|-------------------|-----------------------|
| CHECKED <i>RH</i> | APPROVED <i>RH</i>          | DRAWING NO. D2580 | REVISION SHEET 3 OF 3 |
| DATE 07.02.27     | TITLE 205 SKIDTUBE ASSEMBLY | SCALE 1:24        |                       |